

## Does chronic rhinosinusitis increased lung cancer risk? A population cohort study

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**Objective:** Chronic rhinosinusitis is one of the most common chronic inflammations of upper airway diseases. A previous study of chronic rhinosinusitis and the risks of lung cancer was based the self-reported questionnaire nature of rhinosinusitis. Population-based cohort studies on the correlation between chronic inflammation and lung cancer are limited. Our study strived to investigate the risk related to lung cancer, adenocarcinoma among patients with chronic rhinosinusitis, using a nationwide population-based database.

**Methods:** We identified 13,072 cases that were diagnosed patients with chronic rhinosinusitis in 1990-2010 for the exposure group. We used data from the Taiwan National Health Insurance Research Database. This program offers healthcare services to 99% of the 23 million people residing in Taiwan. We compared the incidence of lung cancers between the two cohorts. Cumulative incidence and hazard ratios of developing lung cancer were calculated.

**Results:** This study consisted of 13,072 participants with chronic rhinosinusitis and 52,288 non-chronic rhinosinusitis participants. Chronic rhinosinusitis cohort had a higher risk of lung cancer than non-chronic rhinosinusitis cohort, with an adjusted Hazard Ratio of 3.52 after controlling for age, sex.

**Conclusion:** This large population-based cohort study showed that patients with previous chronic rhinosinusitis carried a higher risk of developing lung cancer, adenocarcinoma in Taiwan.

**Key words:** chronic rhinosinusitis, lung cancer, risk